

WE CLAIM

1. A reagent for measuring a concentration of an analyte  
5 in a hemoglobin-containing biological fluid, comprising
  - a) a flavin-dependent enzyme that has a flavin bound to it and that has specificity for the analyte,
  - b) a tetrazolium dye precursor,
  - c) an electron transfer agent, and
  - 10 d) a nitrite salt.
2. The reagent of claim 1 in which the analyte is glucose and the enzyme is glucose oxidase.
- 15 3. The reagent of claim 1 in which the dye precursor is water-soluble.
4. The reagent of claim 1 in which the electron transfer agent comprises phenazine methosulfate (PMS) or an analog  
20 thereof.
5. The reagent of claim 1 further comprising a divalent metal stabilizer.

6. A reagent for measuring a concentration of an analyte in a hemoglobin-containing biological fluid, comprising

a) a flavin-dependent enzyme that has specificity for the analyte and does not have a flavin bound to it,

5 b) flavin mononucleotide (FMN) or flavin adenine dinucleotide (FAD).

c) a tetrazolium dye precursor,

d) an electron transfer agent, and

e) a nitrite salt.

10 7. The reagent of claim 6 in which the dye precursor is water-soluble.

15 8. The reagent of claim 6 in which the electron transfer agent comprises (PMS) or an analog thereof.

9. The reagent of claim 6 further comprising a divalent metal stabilizer.

20 10. A dry reagent strip for measuring a concentration of an analyte in a hemoglobin-containing biological fluid comprising a support layer on which is a test pad having a coating of the reagent of claim 1.

11. A dry reagent strip for measuring a concentration of an analyte in a hemoglobin-containing biological fluid comprising a support layer on which is a test pad having a coating of the reagent of claim 6.

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12. The strip of claim 10 in which the test pad has a positively-charged surface.

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13. The strip of claim 10 in which the test pad comprises a polyamide.

14. The strip of claim 10 further comprising a bibulous top layer overlaying the test pad.

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15. A dry reagent strip for measuring a concentration of an analyte in a hemoglobin-containing biological fluid comprising a support layer on which is a test pad and a top layer overlaying the test pad in which a first part of the reagent of claim 1 is on the test pad and a second part of the reagent is on the support and/or top layer.

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16. A dry reagent strip for measuring a concentration of an analyte in a hemoglobin-containing biological fluid comprising a support layer on which is a test pad and a top layer overlaying the test pad in which a first part of the

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reagent of claim 6 is on the test pad and a second part of the reagent is on the support and/or top layer.

5 17. The strip of claim 15 in which the top layer is bibulous.

18. The strip of claim 15 further comprising a spacer and channel between the top layer and test pad to provide a capillary path between the top layer and pad.

10 19. The strip of claim 15 in which the analyte is glucose and the enzyme is glucose oxidase.

15 20. The strip of claim 15 in which the tetrazolium dye precursor is 2,2'-dibenzothiazolyl-5,5'-bis[4-di(2-sulfoethyl)carbamoylphenyl]-3,3'-(3,3'-dimethoxy- 4,4'-biphenylene)ditetrazolium, disodium salt (WST-5).

20 21. A dry reagent test strip for measuring a concentration of glucose in a hemoglobin-containing biological fluid, comprising

- a) a support layer,
- b) on the support layer, a test pad having a coating that comprises

- i) glucose oxidase that has a flavin bound to it,
- ii) a tetrazolium dye precursor, and
- iii) PMS or an analog thereof, and
- 5 c) on the test pad, a bibulous top layer that is coated with a nitrite salt.

22. A dry reagent test strip for measuring a concentration of glucose in a hemoglobin-containing biological fluid, comprising

- 10 a) a support layer,
- b) on the support layer, a test pad having a coating that comprises
  - 15 i) a flavin-dependent enzyme that does not have a flavin bound to it,
  - ii) FMN or FAD,
  - iii) a tetrazolium dye precursor, and
  - iv) PMS or an analog thereof, and
- c) on the test pad, a bibulous top layer that is coated with a nitrite salt.
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